



PATENT

Docket No. H 3491 PCT/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS AND INTERFERENCES

Appellant: Kottwitz et al.  
Appl. No.: 09/701,751  
Filed: February 8, 2001  
Title: DETERGENT CONTAINING AMYLASE AND  
PERCARBONATE  
Art Unit: 1751  
Examiner: Eisa B. Elhilo  
Customer No.: 00423  
Confirm. No.: 7934  
Paper No.: 20040311

Mail Stop Appeal Brief - Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

REPLY BRIEF

Applicants reply to the Office Communication mailed  
March 25, 2004.

REMARKS

Formal Matters

Applicants initially take issue two erroneous observations by the Examiner in his answer regarding Applicants' appeal brief. First, it is alleged Applicants' brief contains no statement regarding related proceedings. To the contrary, the following appears at the top of page 2 of Applicants brief:

II. Related Appeals and Interferences

There are no related appeals or interferences known to applicants, assignee, or their legal representatives that will affect or be affected by or that have a bearing on this appeal.

The Examiner also alleges that Applicants' brief does not contain a statement that the appealed claims stand or fall together. This clearly is not correct. Again, at page 3 of Applicants' brief is the following statement:

VII. Grouping of Claims

All claims stand or fall together in this appeal.

Thus Applicants refute any implication by the Examiner the appeal brief does not comply with the formal requirements set forth in 37 C.F.R. §§ 1.192(c)(2) and 1.192(c)(7).

The Merits of the Appeal

The Examiner's answer does not overcome the reasons for allowance advanced in Applicants' appeal because it confuses and misapplies the relevant legal standards and fails to consider the evidence in the record as a whole.

The parties do not dispute the Examiner's burdens to establish *prima facie* obviousness. "[T]hree basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. § 2143.

Applicants have argued before the Examiner and now before the Board of Appeals that the Examiner has not shown a suggestion or motivation in the references or the knowledge of the art that would have led one of skill to select the claimed enzyme and combine it with the recited peroxidic oxidizing agent. The Examiner has offered the several rationales to find the required motivation to select and combine, and all are wanting.

First, the Examiner argues that one of skill would have been motivated to select the claimed native enzyme product derived from *B. amyloliquefaciens*, indeed would have been motivated to select any species of the amylase

genus, "because an ordinary artisan would have the reasonable expectation that any of the species of the genus would have similar properties and thus, the same use as the genus as a whole." It would appear the Examiner believes that an expectation of success also establishes motivation to select and combine, a novel legal theory indeed. In any event, evidence is required for each element of the *prima facie* case, and it is evidence that is lacking in the Examiner's arguments.

Evidence of similar properties in a genus disclosed in the prior art can be used to show selection of a claimed species would have been obvious. M.P.E.P. § 2144.08.II.A.4(d). But no such evidence appears in this record. Rather, there is evidence in the record to show that the presumption about similar properties would not have been made by one of ordinary skill. EP 0 684 304 at page 2, lines 50-58 discloses that  $\alpha$ -amylases are particularly sensitive to bleaching agents, and that the results in any particular case are quite unpredictable:

More particularly, and without being limited by theory, the currently commercial varieties of alpha-amylases, including those having improved bleach stability in certain tests, can exhibit an unpredictable range of stability and compatibility with the huge array of different possible bleaching or stain removing agents . . . This is particularly true in fully-formulated detergent products. Despite ongoing and continuous research, the richly varied array of bleach or stain-removal chemistry has not been reduced to a simple governing mechanism. In bleach chemistry, including the aspect of undesirable potential attack on enzymes as well

as the desirable aspect of bleaching/cleaning soils, there are often many reaction steps to be considered.

This teaching, unchallenged by any evidence cited by the Examiner, establishes that the conclusions about similar properties advanced by the Examiner are wholly unjustified. This same evidence of unpredictability in the performance and stability of  $\alpha$ -amylases in compositions similar to those presently claimed also shows that one of skill would not have had the expectation of success required to establish *prima facie* obviousness. The absence of evidence to support an expectation of success is underscored by EP 0 867 504, which at page 2 discusses at length the known propensity of  $\alpha$ -amylases as a class to become inactivated in the presence of peroxidic and other oxidizing agents. Thus one of skill would have found no reason to select the claimed enzyme or to predict with any degree of reason a successful result if it was selected.

The Examiner next argues that one of skill would have selected the claimed  $\alpha$ -amylase "because the reference of Herbots et al. (WO'818) is in the same art of detergent compositions." This argument proves too much. In the Examiner's view, if a reference is in the same art as the claims, that is all that is required to show that any selection and combination of any of its disclosures is obvious. Applicants are aware of no authority to support this argument. Establishing that a reference is not non-analogous art does not render any claim in that art obvious.

Lastly, the Examiner argues that one of skill would have been motivated "to select any species of  $\alpha$ -amylase enzymes including the claimed species no matter from which source these enzymes are derived because an ordinary artisan would have the reasonable expectation that any of the  $\alpha$ -amylase species would have similar properties of high activity and thermostability levels as taught by the reference in the absence of contrary." The problem with this argument is that Applicants have provided evidence to the contrary. As discussed above, both EP 0 684 304 and EP 0 867 504 teach that  $\alpha$ -amylases are particularly sensitive to bleaching agents, and that the results in any particular case are quite unpredictable. Both references disclose specific genetic modifications to native enzymes to improve resistance to attack by oxidants. Therefore one of skill would not reasonably have expected the native enzyme presently claimed to be a successful candidate if selected and combined with the claimed peroxidic bleaching agent.

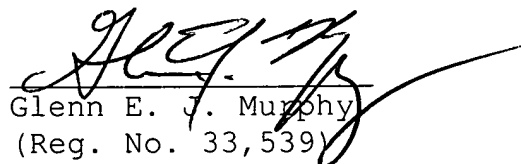
#### CONCLUSION

For the reasons stated above, the Examiner's final rejection of claims 1, 12-18, 20 and 21 should be reversed. Should any fees be due for entry and consideration of this

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Reply dated April 26, 2004  
Reply to Office Communication of March 25, 2004

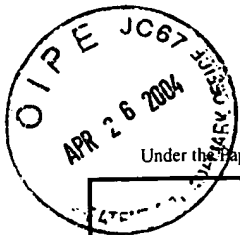
Brief that have not been accounted for, the Commissioner is authorized to charge them to Deposit Account No. 01-1250.

Respectfully submitted,

  
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(to be used for all correspondence after initial filing)

<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	09/701,751	
	Filing Date	February 8, 2001	
	First Named Inventor	Beatrix Kottwitz	
	Art Unit	1751	
	Examiner Name	Eisa B. Elhilo	
Total Number of Pages in This Submission	8	Attorney Docket Number	H 3491 PCT/US

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<b>Remarks</b>		

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Glenn E. J. Murphy, RN: 33,539 (610) 278-4926		
Signature			
Date	4/26/04		

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